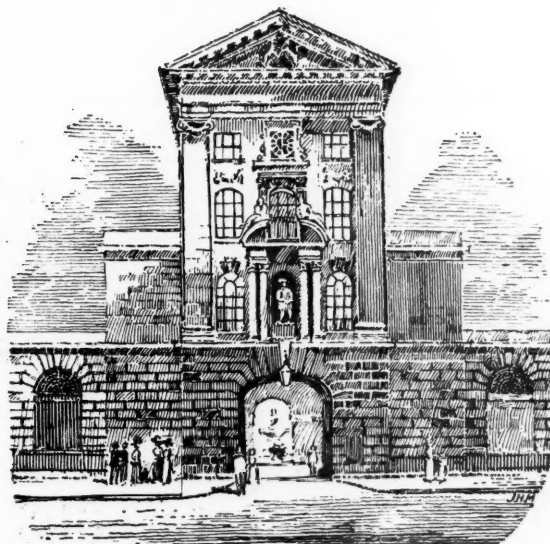


NOV 1 1929

ST BARTHOLOMEW'S HOSPITAL JOURNAL

Medical Lib.



VOL. XXXVII.—No. 2.

NOVEMBER, 1929.

[PRICE NINEPENCE.]

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"Æquam memento rebus in arduis
Servare mentem."
—Horace, Book ii, Ode iii.

JOURNAL.

VOL. XXXVII.—No. 2.]

NOVEMBER 1ST, 1929.

PRICE NINEPENCE.

CALENDAR.

- Fri., Nov. 1.—Dr. Morley Fletcher and Sir Holburt Waring on duty.
Medicine: Clinical Lecture by Dr. Morley Fletcher.
- Sat., " 2.—Rugby Match v. Moseley. Away.
Association Match v. Keble College, Oxford. Away.
Hockey Match v. Trinity College, Cambridge. Home.
- Mon., " 4.—Special Subject: Clinical Lecture by Mr. Scott.
- Tues., " 5.—Sir Percival Hartley and Mr. L. Bathe Rawling on duty.
- Wed., " 6.—Surgery: Clinical Lecture by Mr. L. Bathe Rawling.
- Thurs., " 7.—**Abernethian Society: Clinical Evening, 5.30.**
- Fri., " 8.—Sir Thomas Horder and Sir Charles Gordon-Watson on duty.
Medicine: Clinical Lecture by Dr. Langdon Brown.
- Sat., " 9.—Rugby Match v. Northampton. Home.
Association Match v. Caius College, Cambridge. Away.
Hockey Match v. University of Reading. Home.
- Mon., " 11.—Special Subject: Clinical Lecture by Mr. Elmslie.
- Tues., " 12.—Dr. Langdon Brown and Mr. Harold Wilson on duty.
- Wed., " 13.—Surgery: Clinical Lecture by Mr. L. Bathe Rawling.
- Fri., " 15.—Prof. Fraser and Prof. Gask on duty.
Medicine: Clinical Lecture by Sir Percival Hartley.
- Sat., " 16.—Rugby Match v. London Irish. Away.
Association Match v. Old Mercers. Home.
Hockey Match v. Old Cranleighans. Home.
- Mon., " 18.—Special Subject: Clinical Lecture by Mr. Bedford Russell.
- Tues., " 19.—Dr. Morley Fletcher and Sir Holburt Waring on duty.
Last day for receiving matter for the December issue of the Journal.
- Wed., " 20.—Surgery: Clinical Lecture by Sir Charles Gordon-Watson.
Hockey Match v. Keble College, Oxford. Home.
- Thurs., " 21.—**Savoy Hotel.—9.0 p.m.: St. Bartholomew's Hospital Dance.**
- Fri., " 22.—Sir Percival Hartley and Mr. L. Bathe Rawling on duty.
Medicine: Clinical Lecture by Dr. Langdon Brown.
- Sat., " 23.—Rugby Match v. London Welsh. Home.
Association Match v. University College. Away.
- Mon., " 25.—Special Subject: Clinical Lecture by Dr. Cumberbatch.
- Tues., " 26.—Sir Thomas Horder and Sir Charles Gordon-Watson on duty.
- Wed., " 27.—Surgery: Clinical Lecture by Sir Charles Gordon-Watson.

Thurs., Nov. 28.—**Abernethian Society: Address by Dr. T. H. G. Shore, 5.30.**

Fri., " 29.—Dr. Langdon Brown and Mr. Harold Wilson on duty.
Medicine: Clinical Lecture by Sir Percival Hartley.

Sat., " 30.—Rugby Match v. Devonport Services. Away.
Association Match v. Old Brentwoods. Home.
Hockey Match v. Emmanuel College, Cambridge. Away.

EDITORIAL.

THE HOSPITAL APPEAL.

NEWS has reached us of a stupendous appeal for money shortly to be launched by the Hospital. Impenetrable mystery and unbreakable silence cloak the details of the scheme, but we are assured that every known resource of modern advertising technique and some newly invented for the occasion will be brought into play. The essence of good generalship is surprise, and it appears that not only we of the Hospital but the citizens of London are in for some breathless surprises. The campaign is likely to last for a twelvemonth or more, during which time the students of St Bartholomew's will find their services required for many a strenuous sally into London's pockets. The business-like spirit of the organizers bodes ill for the modern counterparts of Godric, the butcher, of whom it is told in the *Liber Fundacionis* that he was "a man of excessive sternness and of a mind niggardly beyond what was becoming, who was wont not only to give nothing to those that asked him, but even to insult them with scornful words." By the time the propaganda has done its work, the Godrics will have either paid up or fled the country.

While the schemes for building up the credit account are strategically hidden, the schemes for destroying it are open to inspection, and the organizers have furnished this summary of how the money is to be spent.

"Bart.'s needs a million pounds"

To pay off the balance due on the new Surgical Block and on the extension of the Nurses' Quarters (£133,000)
 To reconstruct the South, East and West blocks of the Square, which are 200 years old
 To recondition the Maternity Department
 To provide an In-Patient Children's Department
 To extend the present Out-Patients' Department
 To extend the Medical School
 To increase students' accommodation, lecture rooms, etc., and to provide residential quarters for students
 And last, but by no means least, to endow research and teaching, for no such endowment exists to-day.

For the year ending December 31st, 1928, the ordinary revenue was £186,147, and the ordinary expenditure (apart from new apparatus, equipment, building reconstructions and additions), £201,774—a deficit of £15,627.

Let us hope that the appeal will loose the needed flood of gold upon the Hospital.

* * *

The Old Students Annual Dinner was held on Tuesday, October 1st, in the newly renovated Great Hall. After "The King" Sir Frederick Andrewes opened his speech with a welcome to the assembled guests, amongst whom were Lord Stanmore, the Masters of the six City Companies, and the Editors of the *Lancet* and of the *British Medical Journal*.

Sir Humphry, he said, could be welcomed as an Old Bart.'s man, or as a Professor of Medicine, or if need for a representative of the Services arose, as a naval man.

The Old Students had lost during the year Sir William Church, in his ninetieth year, Sir Dyce Duckworth, Mr. Elkin Cumberbatch, and the well-beloved Sir Anthony Bowlby.

Reviewing the year, Sir Frederick praised the cleaning, re-lighting and re-flooring of the Great Hall. The other great change was the approaching completion of the new Surgical Block—a feat due to the architect, present at the Dinner. The arrangements of the building were in every way conducive to the comfort of the surgeon, whose need of the rest-rooms provided was real, in contradistinction to the physicians, whose professional exercise was only a little light tapping of the chest. Anæsthetists, with their materials laid on in all theatres, would soon do no more than play fantasias on a keyboard remote from the patient.

But all these changes needed money, and with its expenditure of £201,000 per annum, exceeding its

income by £15,000, he wished to appeal to Old Bart.'s men present to help the Hospital, and suggested a tour of the new buildings on the morrow to stimulate potential givers. Sir Frederick hoped that his appeal would have effect beyond the confines of the Dinner.

Lord Stanmore replied for the guests, and proposed the health of Sir Frederick.

Coffee in the Library gave opportunity for an informal rounding off of an exceedingly pleasant dinner.

* * *

THE POST-GRADUATE RADIUM COURSE.

The success of the Radium Course, assured though it was from the very start, exceeded all expectations. The course was originally planned for thirty-six students, but so many applications were received that by ingenious duplication it was expanded to take two such groups and to accommodate seventy-two. Even then many applicants had to be refused, on whose behalf we venture to hope that a second course, or something like it, will take place in the near future.

The Dean has put into our hands the following letter, which we publish with great pleasure:

CUMBERLAND INFIRMARY,
 CARLISLE,
 October 3rd, 1929.

DEAR DR. SHORE,—We have been requested by the members of the Post-Graduate Class on Radium to convey to you, as representing the Medical College, our great appreciation of the way in which this course was conducted. It was very apparent to all who were present how much time and trouble must have been taken by those who conducted the course, in the preparation and organization for our benefit.

The members of the class feel most grateful, not only to those who taught us, but to the clinical assistants, sisters and nurses, patients, and all who contributed to the great success of this very instructive and enjoyable class.

Will you kindly convey our thanks to them, and to the Council of the Medical College?

Yours truly,
 J. W. GEARY GRANT (*Section 1*).
 NORMAN MACLAREN (*Section 2*).

We hope to publish in six months' time a short note, and in a year, perhaps, some fuller account of the progress of the cases operated upon during the demonstration.

The *Lancet*, after eighty-two years in Bedford Street, has moved to No. 7, Adam Street. The house is an Adam house of great charm and beauty. A brief notice of its history, and of the wanderings of the *Lancet* offices, will be found in the number of September 19th. We wish our distinguished contemporary as much prosperity in the new home as it has always enjoyed in the old.

* * *

Dr. Morley Fletcher will take the chair at the Fifty-third Anniversary Dinner of the Cambridge Graduates Club of St. Bartholomew's Hospital, which will be held at the Mayfair Hotel on Wednesday, November 20th, at 7.15 for 7.30 p.m. The price of the dinner is 12s. 6d., exclusive of wines, and no tickets are required.

* * *

We regret to announce the death of Sir Thomas Jenner Verrall, which occurred on October 5th, at the age of 77. He was for many years a member of the General Medical Council, and a prominent member of the British Medical Association. He was educated at Marlborough, and was a student at St. Bartholomew's in the 'seventies.

* * *

The following gentlemen have been nominated to House Appointments from November 1st, 1929:

Junior House Physicians—

Dr. Morley Fletcher	R. D. Robinson.
Sir Percival Hartley	J. F. Varley.
Prof. F. R. Fraser	R. K. Price.
Sir Thomas Horder	C. N. Evans.
Dr. Langdon Brown	H. P. Hutchinson.

Junior House Surgeons—

Sir Holburt Waring	W. A. Elliston.
Mr. L. Bathe Rawling	P. J. Richards.
Prof. G. E. Gask	A. Philips.
Sir C. Gordon-Watson	R. C. Bennett.
Mr. Harold Wilson	V. C. Thompson.

Intern Midwifery Assistant (Resident)

A. Bennett.

Intern Midwifery Assistant (Non-Resident)

K. W. D. Hartley.

Extern Midwifery Assistant{ H. V. Knight.*
E. J. Neill.†*H.S. to Throat and Ear Departments*

R. W. Raven.

H.S. to Ophthalmic Department

W. A. Nicholson.

H.S. to Skin and Venereal Departments{ W. V. Cruden.*
D. A. Langhorne.†*H.S. to Orthopaedic Department*

G. H. Bradshaw.

Junior Resident Anaesthetists{ A. M. Boyd.
B. Rait-Smith.*Casualty House Physicians*{ B. H. Gibson.*
J. S. Whiting.*
C. Sanderson.*
A. W. Franklin.†
J. O. Williams.†
C. B. Prowse.†*Casualty House Surgeons*{ E. M. Sharples.*
J. R. J. Beddard.†

* 3 months, November. † 3 months, February.
All others for 6 months.

§

The Students' Union will hold its Annual Dance on Thursday, November 21st, at the Savoy Hotel. The Night Watchmen have been engaged to play. The Ball begins at nine and ends at three. Single and double tickets, which cost 21s. and 35s. each respectively, may be had from Mr. E. V. Frederick and Mr. G. D. S. Briggs.

MORE MEDICAL NOTES.

By SIR THOMAS HORDER, Bt.

ON SOME ABDOMINAL DISEASES.

(1) Because a patient suffering from ulceration of the stomach is elderly it is not uncommon to argue that this fact favours malignancy. The argument is fallacious, because peptic ulcer is quite common in men over seventy years of age. Age, of itself, therefore gives no help in differential diagnosis.

(2) In the differential diagnosis of simple from malignant ulcer of the stomach too little stress is often laid upon the significance of a frank hæmatemesis. In the presence of this complication simple ulcer becomes highly probable, for erosion of an artery rarely occurs in carcinoma, whereas it is a common event in simple ulcer.

(3) The association of enlargement of the spleen with hæmatemesis occurs in splenic anæmia and in cirrhosis of the liver. The differential diagnosis is usually not difficult. But there is a third possibility, though a rare one—an old-standing peptic ulcer which, by dense perigastric adhesion, has caused thrombosis of the splenic artery.

(4) It is fairly well known that an enlarged spleen, whatever its associations, not seldom becomes much smaller after an attack of hæmatemesis or melæna. It is interesting to observe that, in splenic anæmia at all events, a large spleen may become so small when the patient is under ether anæsthesia that the organ cannot be palpated just prior to a laparotomy. This fact no doubt accounts for the discrepancy which sometimes occurs between the state of the spleen as recorded before operation and observation as to the condition of the organ during it.

(5) Portal thrombosis can scarcely be diagnosed with certainty. But if a patient, known to suffer from cirrhosis of the liver, develop signs of intestinal obstruction with enterorrhagia, there is strong presumptive

evidence that this is the nature of his trouble. This diagnosis may also be found to be correct if, with acute abdominal symptoms, a patient who has previously shown a tendency to venous thrombosis, but is free from cardiac and renal disease, develops ascites within the space of a few days.

(6) Ascites arising insidiously in a woman in whom there are no other symptoms or signs (*e.g.* of heart, kidney or liver disease) is generally due to ovarian adenoma. The growth, being sometimes very soft in consistency, may not be felt by vaginal examination, and so may require laparotomy for its demonstration.

(7) The most frequent antecedent to suppurative pylephlebitis (portal pyæmia) in this country is operation for a septic appendix. Desperate though the condition is, recovery does occasionally take place, the patient living long enough to admit of coalescence of the multiple foci of suppuration and evacuation of the abscess so formed.

(8) Single abscess of the liver, when not due to dysentery, is most often due to *Staphylococcus aureus*. The condition may give rise to an obscure pyrexia for many weeks, in this particular exceeding perinephric abscess, with which disease it has affinities in causation and in the difficulties which may surround the diagnosis.

(9) Eosinophilia in disease of the liver is not peculiar to hydatid disease. It may occur in some other diseases of this organ as in neoplasm, especially if the growth be a rapid one.

ACKNOWLEDGMENTS.

The British Journal of Nursing—Bulletin de l'Hôpital Saint-Michel—L'Echo médical du Nord—Giornale della Reale Società Italiana d'Igiene—Guy's Hospital Gazette—The Hospital Gazette—Leprosy Notes—The London Hospital Gazette—Long Island Medical Journal—The Nursing Times—The Post-Graduate Medical Journal—St. Mary's Hospital Gazette—University College Hospital Magazine.

OVERHEARD IN THE SQUARE.

First Path. Clerk: One million is a bit low for a red count, isn't it?

Second ditto: Oh well, multiply it by four.

OVERHEARD IN THE SURGERY.

Q.: Are your bowels well open, ma'am?

A.: Yes, thank ye kindly doctor—I allus keeps them open with them *sarcastic* pills.

MEDICAL HISTORY TAKING.

By GEOFFREY BOURNE, M.D., F.R.C.P.

(Concluded from p. 7.)

PAST HISTORY.

The past history includes, besides illnesses previous to the patient's last period of good health, any other information about his life hitherto that may throw light upon the disease present.

For the sake of clearness these categories can be separated into past events, past diseases and past habits.

Past events.—A premature child often owes its early ill-health to its prematurity. A baby with a cerebral diplegia may owe its trouble to an abnormally long and difficult labour with resulting meningeal hæmorrhage. An inquiry here as to the length of the labour or the use of instruments may be instructive. In the case of infantile dyspepsia, marasmus, rickets, scurvy and similar early troubles, an exact inquiry as to how long the baby was at the breast, and concerning the nature and duration of any artificial feeding, is essential. Again, in the case of suspected mental deficiency in a young child, the ages at which it first cut teeth, walked, talked and acquired sphincter control are important, as in such a case these are almost always delayed.

A child should cut its first teeth about the sixth month or soon after, should walk at a little after twelve months, and at about the same age begin to say a few words.

Sphincter control varies with the intelligence of the mother. In hospital cases it is not uncommon for the former still to be lacking up to the age of three, but where a child is properly cared for clean habits are acquired at least a year earlier.

During the school age this section of the past history ceases to yield information of great importance, except upon psychological and intellectual matters.

In adult life the effect of work becomes a matter for consideration. Certain types of work are liable to produce diseases. Certain trades, in spite of stringent precautions, still bring contact with poisons. Lead poisoning occurs among those who work in paint, in accumulator factories and in red and white lead, particularly the latter. Arsenic is present in weed-killer and sheep-wash; mercury is occasionally absorbed by thermometer makers. Nor is play devoid of risks. Lead poisoning from sucking toys is not unknown among children, and alcohol in toxic quantity is occasionally absorbed in secret by the most unlikely individuals.

Apart from these toxic causes, there has to be considered the effect of almost any type of work upon certain diseases. The patient with *morbus cordis* may

be well able to do the work of a clerk, and quite unable to shovel coal. The phthisical hairdresser working below ground by artificial light may take a new lease of life if he can find open-air employment. The compatibility of work with the disease must be considered carefully in every case separately. Much of a man's success in practice depends upon the wisdom with which he can arrange, satisfactorily to the patient, such pathological and financial compromises. It is useless to advise a poor man to spend two years in a Swiss sanatorium. Such counsel merely oppresses the patient with the hopelessness of his case, and may thus actually shorten life.

Again, a man suffering from a raised systolic and diastolic blood-pressure and arteriosclerosis is working reasonably hard as a stockbroker. His income is £2000 per annum and his life is insured well. From the point of view of his health alone it may be strongly advisable for him to cease work. If he does he loses his earned income, and becomes unable to support his wife and three children at school without drawing upon capital.

If he continues at work he may—or may not—die in five years' time. By then his family will have found its financial feet without his help. To him five years of useful work has been worth twenty of invalidism.

The doctor who insists upon his retiring forthwith will probably be disregarded. The one who explains carefully the pathological chances will retain his patient's confidence, and may so, by periodic examinations and careful advice, be able to give valuable assistance.

It is not the doctor's function to insist inflexibly upon certain measures. He should be able to explain in accurate terms his opinion of the condition present and its probable outcome. It is the patient who, knowing all the circumstances of his own life, must ultimately decide.

There remain two further matters that may yield important information. Has the patient lived abroad? Has the patient been carefully examined at some previous period? Inquiries regarding the former will open the eyes to the possibility of a tropical disease, and regarding the latter will prove that upon the former occasion, such as life insurance or examination for the Army, Navy or some other service, the patient was in good bodily health. The tropical diseases of importance are malaria, dysentery, amœbic or bacillary, ankylostomiasis, bilharzia infection and infection by other worms.

Past diseases.—Accurate knowledge of diseases suffered from in the past can be useful for three main reasons. Some complaints are limited to one attack, complete immunity being produced; others generate sequelæ that follow weeks, months or years after the original attack, earning sometimes the dignity of an

independent title. Others will predispose to attacks of some otherwise unconnected disorder.

Well-known diseases that are as a rule only suffered from once are variola, varicella, scarlet fever, mumps, pertussis, typhoid fever, syphilis.

Common diseases followed by sequelæ are rheumatic fever, chorea, scarlet fever, diphtheria, producing cardiac lesions, scarlet fever, tonsillitis, diphtheria producing nephritis, pneumonia, influenza producing fibrosis of the lung and bronchiectasis, syphilis, producing a host of cardiovascular nervous and other disorders.

It is a valuable rule when trying to gauge the likelihood of such a sequence invariably to ask, on learning of an acute specific fever, "How long were you," or "How long was your child away in the fever hospital?" or "How many weeks were you in bed with pneumonia?" Any residence in a fever hospital of over eight weeks for scarlet fever or diphtheria argues strongly in favour of some complication at the time, and for the increased probability of some serious sequela now.

With regard to syphilis, it is desirable to inquire as to the type, length of time and the vigour of the treatment given.

The frequency with which tuberculosis may follow directly upon measles and pertussis has already been mentioned.

Certain epidemics of true influenza appear to lower the immunity of the lungs against pneumococci and streptococci and other organisms; other epidemics appear to produce susceptibility to similar infections of the middle ear.

Past habits and environment.—The conditions of a patient's life in the past are also of importance. The state of his home as regards ventilation, light, humidity and size of rooms, the presence of overcrowding with the attendant difficulty of keeping clean; the type and quantity of the diet and the type and the proportion of fresh uncooked food in it; his habits as regards alcohol; these must all be defined. Finally, the psychological conditions of the home have a great effect upon health. Anorexia nervosa in hysterical young girls, enuresis in small children, pseudo-angina, unexplained sleeplessness or dyspepsia may all have as their basis domestic friction or misunderstanding.

The patient's work must also be considered. Does it give too much or too little exercise?

Does it expose to any added risk, chemical, bacterial or physical. A tabetic in a power station is in greater danger than is a careful worker in a lead factory.

FAMILY HISTORY.

Family history may have an importance relative to the diseased process, either by virtue of inherited

characteristics, or by that close approximation of individuals which is inherent in family life, and so by direct and continued infection.

Certain conditions are very curiously regular in their appearance. Hæmophilia and pseudohypertrophic muscular dystrophy are transmitted by the females who escape the diseases to the males who manifest them. Marie's hereditary ataxy, alkaptonuria, acholuric family jaundice, are also, as a rule, familial diseases.

So by all gradations a group is at length reached which is not as a rule strikingly familial in distribution, but where not infrequently familial examples undoubtedly occur. This includes such conditions as arteriosclerosis, cancer, diabetes, asthma and hay-fever. It is this group that led the older physicians to speak of diatheses, by which was meant a particular type of human soil that would be by its nature predisposed to produce certain definite diseases or groups of diseases.

Again, the position in the family seems to have some influence upon disease incidence. The eldest son is apparently more likely to be the victim of congenital pyloric stenosis; the last of a long family is said by some to be more liable to mongolianism.

Race, a rather larger division than that of family, determines the appearance of such diseases as amaurotic family idiocy and sickle cell-anæmia. The former is practically confined to Jews and the latter is restricted to negroes. Diabetes and Gaucher's disease are both common among Jews. Moreover, races differ in their resisting power. Tubercle and pneumonia are widely fatal to coloured peoples and syphilis and yellow fever the reverse.

The infective side of family influence upon disease is most apparent in connection with tubercle and syphilis. Many clinicians deny completely that the undoubtedly frequent family incidence of tuberculosis is due to any inherited weakness of resistance at all, and the evidence certainly appears to favour the view that the child of a tuberculous mother is more frequently tuberculous because of the excessive and repeated doses of the infecting organism.

The effect of syphilis as a marital or congenital infection needs no explanation. A succession of miscarriages preceding the birth of a viable child or apart from this should always arouse suspicion.

A third disease where there is an undoubted family incidence is acute rheumatism. It is common in a children's hospital to treat successively the children in one family as in-patients and out-patients for rheumatic disease of the heart. To what extent "diathesis" or infection are responsible it is difficult to determine.

EPILEPSY: ITS TREATMENT AND PROGNOSIS.



ET it be clearly understood that the term "epilepsy" as used in this article only covers the series of events classified under idiopathic epilepsy. The protean nature of such a malady requires that the treatment thereof should be considered from several points of view; but, at the outset, it may definitely be stated that there is no single specific remedy. For convenience the treatment of epilepsy will be discussed under the following headings:

1. The attack itself.
2. Medicinal.
3. Dietetic.
4. Institutional.
5. Surgical.
6. *Status epilepticus*.

I. THE ATTACK ITSELF.

The first consideration may be given to the question as to whether the attack may be arrested once the aura has commenced. The attacks in which abortive measures are likely to prove most successful are those with a peripheral aura; and the common method of ligaturing or compassing the arm as soon as the aura is felt in the hand is well known. Many other methods have been devised, but according to Herpin the most effectual are constriction and forced movement in the opposite direction. There is still doubt, however, as to the value of such treatment, as so many epileptics have minor attacks consisting of an aura alone, as well as full seizures. At most these measures are only of temporary use, becoming ineffectual as the disease progresses.

Once the seizure has commenced all that is usually required is to lay the patient on the floor and protect him from injuring himself. Active restraint of movement frequently appears to prolong and intensify the convulsive movements. Injury to the tongue may be avoided by inserting the handle of a spoon or a cork between the teeth; a pillow behind the head will avoid bruising of the scalp. Loosening of the collar may prevent facial congestion or may relieve it. The post-paroxysmal sleep should be encouraged, as it renders the subsequent headache less severe. Patients who suffer from nocturnal attacks are in danger of suffocation from rolling over on the face during the convulsion, but this danger is small, and Wilson relates how in 1398 patients treated as in-patients for epilepsy

15 died; of these only one or two died from asphyxia. To prevent such an accident careful attention is needed till the fit is over; consequently, in severe cases it may be advisable for another person to sleep in the same room.

2. MEDICINAL.

Though there is no single specific remedy in the treatment of epilepsy, the alkaline salts of bromine come nearest to this definition. Bromides may arrest the seizures immediately or within a short period of administration, temporarily or permanently. Bromides may reduce the severity and frequency of the attacks. Lastly, bromides may have no influence whatsoever on the attacks. It is of importance when administering bromides to study the amount, the frequency and the time of administration in individual cases. When nocturnal attacks occur alone, a dose of 15 to 30 gr. at bedtime is usually sufficient; but it should be remembered that nocturnal attacks may cease under treatment and diurnal attacks commence, so that in such cases, especially if the attacks are at long intervals, no medication at all may be more advantageous. With seizures occurring only during the day a dose of bromide salts taken after breakfast along with a smaller dose at bedtime proves most efficacious. The common practice of giving bromides thrice daily has many opponents amongst those dealing with large numbers of cases. The relative value of the various salts is difficult to assess: the potassium and sodium salts are possibly more useful, but a mixture of the three will sometimes act better than any single salt. The bromide salts are most conveniently given in water alone: the addition of arsenic appears to have little effect on the symptoms of bromide intoxication.

Within recent years luminal (phenyl-ethyl-barbituric acid) has become a recognized adjuvant in the treatment of epilepsy. It is given in a dose of $\frac{1}{2}$ to 1 gr., with a maximum total in one day of 3 gr. This drug is of little value in cases of *petit mal*, and is much more efficacious in *grand mal*, especially if given with bromides. Sodium luminal, a soluble salt, is much less potent than luminal: Fox found that the majority of cases benefited at first, but that a progressive tolerance was established to this drug.

Belladonna either alone or in combination with bromides is sometimes effectual. In this case the dose has to be pushed above the usual pharmacopœial upper level. Chloral has also been found useful, but may lead to troublesome toxic symptoms. Paraldehyde in small doses may benefit the patient, but the aroma associated with its administration is a frequent contra-

indication. Borax in the hands of the French has found much favour, although in this country similar favourable results have not been encountered.

3. DIETETIC.

In considering the question of diet in its relation to the treatment of epilepsy two primary factors require consideration, namely, the nature of the condition leading to periodic fits, and whether this can be influenced by food or not. Many authorities regard epilepsy as a manifestation of disturbed metabolism, and Collier considers it a "metabolic dyscrasia." It is also well known that many epileptics are notoriously big eaters. From the purely biochemical stand-point Gosden and Fox, in a small series of cases, found by the lœvulose tolerance test that there was a definite liver deficiency in epilepsy; but the value of this test as one of hepatic efficiency is doubtful. McQuarrie and Keith in a series of careful observations found an abnormality in the acid-base equilibrium, but concluded that this was not the fundamental factor in the production of fits. Gosden, Fox and Brain conducted an investigation into the blood cholesterol of epileptics and found it to be abnormal: they also found that preceding a fit, the blood cholesterol tended to fall. Krainski suggested ammonium carbamate as the causal factor. Many other works could be referred to which deal with this aspect of the disease: but it may be said that, as yet, no definite proof is forthcoming as to the character of the biochemical disorder. Be that as it may, Geyelin in 1921 found that rigorous starvation considerably reduced and often caused a complete arrest of fits. Later Wilder and Peterman suggested that the benefit thus derived was not due to starvation, but to ketosis produced by the abstinence from food. Working on such a hypothesis they were able to produce considerable amelioration of the number of fits in children by putting them on a diet calculated to produce a ketosis. Since then, their observations have been repeated by many who have found definite improvement in a certain number of cases. Brain and Strauss, in a review of the subject, found that a ketogenic diet freed 31% of epileptic children from their attacks and reduced the number of attacks in a further 23%. The elaboration of such a diet is, however, fraught with some danger, as shown by Nelson, who found that on a ketogenic diet the output of calcium and phosphorus exceeded the intake. The prolonged use of such a diet may therefore deplete the bodily stores of calcium and phosphorus, much to the detriment of the patient, unless enough calcium and phosphorus is given in the diet. Working out the diet is an elaborate calculation and is beyond the sphere of

this article, but reference to modern text-books of neurology or dietetics will furnish the necessary facts.

Apart from the special diet, there is little doubt that a careful regulation of quantity, quality and time of consumption of food may benefit epileptics. Frequent small meals are of more benefit than one or two large meals: the large meal at night should be carefully avoided. Sometimes a salt-free diet will permit of smaller doses of bromide controlling the fits, the type of convulsion most favourably influenced being the major seizure.

4. INSTITUTIONAL.

How frequently it happens that a case of severe epilepsy is admitted to hospital, and the house physician, in high hopes of seeing a fit, is still disappointed at the end of several weeks. The alteration of hours, of diet and of surroundings all benefit the epileptic: but probably what is of more consequence is the ward discipline and the regular habits inculcated thereby. On account of this it is found that epileptics do well in institutions. But apart from these considerations patients with many attacks and possibly some mental deterioration should be treated in institutions: their attacks and mentality have a detrimental effect on other members of a family. Also in institutions regular routine and outdoor employment help to alleviate the attacks, and the patients themselves become happier. Yet institutional treatment should at present only be employed in severe cases.

5. SURGICAL.

Since the advent of cerebral surgery, surgeons have shown a willingness to attempt to alleviate the epileptic by decompressive operations: this has been especially so in cases of local epilepsy. And there is little doubt but that, in selected cases, decompression may benefit the patients. When fits of a local type follow a definite trauma to the head, operation in the early stages may be advisable in order to correct any local damage if possible, and also in order to prevent the development of the convulsive habit. Generally speaking, surgical interference will benefit nearly all cases for a short period, but the attacks return with increased frequency and intensity. So it may be said that, as yet, the surgeon has not offered any radical means of alleviating this dire complaint.

Consideration as to the duration of treatment is worthy of a few words. Once medicinal treatment has been instituted and the attacks have been completely alleviated the drugs should be continued for a period

of two years; the dose may then be gradually lessened until a minimum is being given, and after a low dose for some weeks the drugs may be stopped. The sudden cessation of drugs cannot be too strongly condemned on account of the severe risks to the patient. The literature abounds with examples of *status epilepticus* coming on after the sudden cessation of drug treatment. *Status epilepticus* is a condition dangerous to life.

6. TREATMENT OF STATUS EPILEPTICUS.

Rapidly recurring attacks with intervening periods of such short duration as hardly to permit the return to full consciousness constitute this syndrome. If the attacks are not early controlled the patient is likely to die. At post-mortem the organs will show a state of acute fatty degeneration. To treat such a condition the exhibition of powerful drugs in large doses is indicated. Bromides and luminal are as a rule unsatisfactory, morphia and hyoscine are unreliable, while ether or chloroform anæsthesia are attended with considerable risk. Two avenues of treatment are open, namely, the administration of paraldehyde in doses of 4 to 6 drms. with an equal quantity of olive oil *per rectum*; this method has proved of inestimable value and Collier strongly advocates it. Recently Weiss has used luminal-sodium intravenously, but in his publication he draws attention to the danger associated with such therapy; he injected the solution slowly, and found that the dose necessary to control the attacks varied from 0.4 to 1.0 grm. in twelve patients.

PROGNOSIS.

Hippocrates, when describing the "Sacred Disease," wrote: "If it attacks little children, the greater number die. . . . If youths and young adults recovery may take place. . . . When it attacks people of advanced years it often proves fatal. . . . When the disease has prevailed for a length of time it is no longer curable." And in spite of the advance of medical science this remains substantially true.

In assessing the prognosis of an individual case help may be obtained from various quarters. Heredity has an undoubted influence: cures are less likely to occur in those with a family history of epilepsy than in those without, while the former also show less general improvement than the latter. Epilepsy commencing under the age of 10 years is most unfavourable as regards arrest or improvement, and such cases are most liable to become confirmed epileptics. The age of onset most favourable for improvement is between

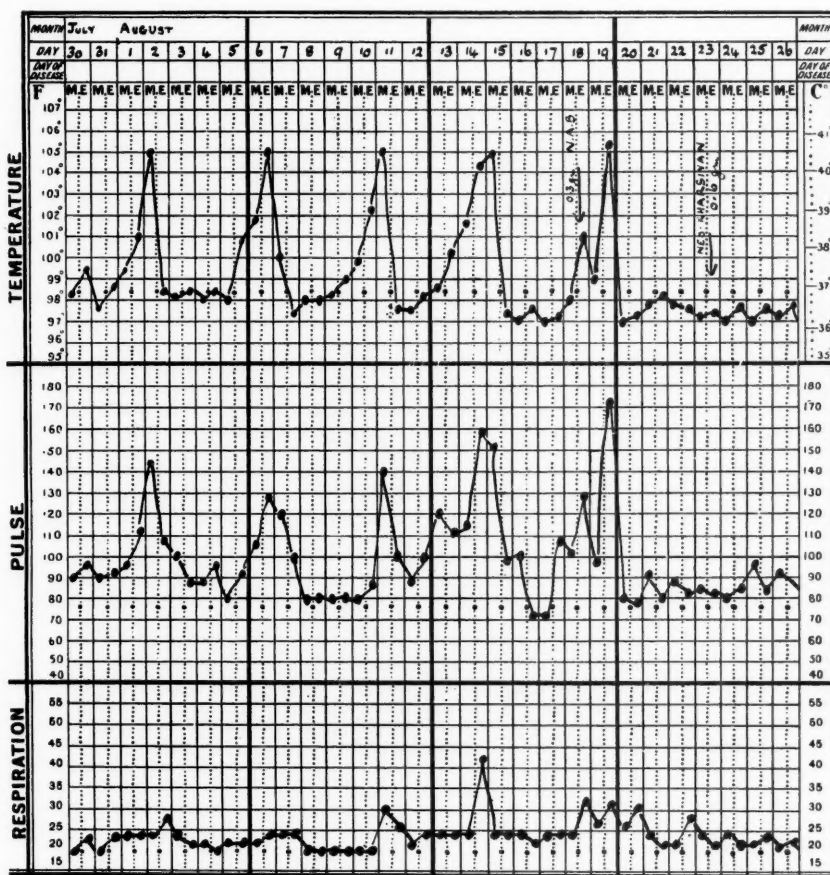
16 and 20 years; above that cures decrease in numbers. The duration of the disease before regular treatment is also important, and the earlier treatment is instituted the more hopeful is the prognosis. Patients with daily attacks react poorly to treatment, while those with infrequent attacks respond better. The character of the attack is of importance, and there is little doubt that minor attacks are less amenable to treatment than major attacks: further, minor attacks, if frequent,

A CASE OF RAT-BITE FEVER.



CASE of rate-bite fever, recently in Mary Ward, is of interest from its comparative rarity and is here reported.

The patient was a Swiss girl, æt. 19, speaking practically no English, and employed as a children's governess at Horsham.



are more commonly associated with progressive mental deterioration than major attacks. In conclusion, it may be stated that a cure of epilepsy is exceedingly difficult to establish, while a possible criterion of cure is the absence of attacks over a period not shorter than ten years.

In the preparation of this article the works of Collier, Turner, Wilson, Holmes, Brain and many others have been consulted and greatly appreciated. E. A. C.

HISTORY.

At the beginning of June, 1929, patient picked up a rat, imagining it to be a rabbit, in order to rescue it from a dog. The rat bit her on the right index finger. The bite was treated with iodine, and *la blessure est fermée*.

About two weeks later the finger and arm became swollen, she suffered from sore throat and was febrile. The finger was incised but there was very little pus.

Four days later (on July 2nd) the girl was ill and febrile; she was admitted to a nursing home and the finger again incised.

Since that date until admission to St. Bartholomew's Hospital on August 13th her temperature chart has, in her own words, shown *très jolies montagnes* every four days, when her temperature used to rise to 105°. Two of these attacks were observed in hospital and her condition in them is recorded below.

Before admission she was treated, amongst other drugs, with arsenic and quinine, but made no improvement.

On physical examination during an afebrile period no abnormality or disease was discovered. On the posterior aspect of the right index finger about its middle was a punctured wound partly covered by scab and exuding serum. There appeared to be some thickening of the underlying periosteum, but an X-ray film revealed no abnormality in the phalanges. This wound soon became dry and healed. The epitrochlear, axillary and other lymph-glands were not palpable and the spleen was not enlarged.

In a febrile period patient was very distressed and restless, flushed, and at the height of the attack she shivered a little, but had no definite rigor. She vomited copiously a watery fluid containing bile and mucus. Over the abdomen and chest and to a lesser extent on the limbs were purple-coloured erythematous patches about 2 in. by 2 in. with areas of normal skin between them. This rash gradually faded and had completely disappeared in two days. There was no local change in the wound or any glandular enlargement.

INVESTIGATIONS.

Urine.—Natural both in attacks and between them.

Blood-count.—Hæmoglobin, 60%; red blood-cells, 4,160,000; white blood-cells (apyrexial), 9200; white blood-cells (pyrexial), 20,000; polymorphs, 17,200; lymphocytes, 1800; large mononuclears, 600; eosinophiles, 400.

Wassermann reaction.—Serum anti-complementary.

Sigma reaction.—Negative.

Blood-films.—No spirochaetes seen by dark-ground illumination. A mouse inoculated with the patient's blood remained well.

The effect of intravenous arsenical preparations can be seen in the chart; the patient was afebrile after the second injection and remained so. In all 0.3 grm. of N.A.B. was given and 2.4 grm. of neokharsivan. She was discharged well on September 9th.

This case showed the more usual features of the disease, but no glandular enlargement, local or general, occurred. There was no headache or pain in the limbs—symptoms which are often severe. The bouts of fever are usually of longer duration than in this case. Only the later bouts of fever are shown in the chart. The earlier ones were of three or four days' duration.

Course of the disease.—The disease tends to recover spontaneously after a relapsing fever lasting for months. The mortality is said to be 10%, and death if it occurs is usually in the first febrile attack from toxæmia, or later from nephritis or exhaustion. Endocarditis is also described as a complication.

History.—Miyake, of Japan, first described the disease in detail in 1899, but much earlier references to it occur in Japanese medical literature. Sir Thomas Horder was the first to describe the disease in this country in a case under his care at the Royal Northern Hospital. In 1909 he wrote: "I think it probable that the *materies morbi* is of the nature of a protozoon, but in support of this I can adduce no evidence." Ogata ascribed the disease to a sporozoon, but later changed the causal agent to an aspergillus. Schottmüller grew an organism of the streptothrix group from a case, and in 1916 Blake grew a similar organism from a case, which was, however, in all probability not rat-bite fever, but a septicæmia

and ulcerative endocarditis arising from an infected rat-bite.

It was left to Japanese workers, Futaki, Takaki, Taniguchi and Osumi, to isolate the causal agent. It is a highly motile spirochaete, with a body up to 2 to 5 μ in length and terminal flagellæ. This spirochaete was isolated in a high proportion of cases suffering from the disease from the blood, skin and lymph-glands, both on direct examination and, more easily, by intraperitoneal inoculation of mice and other animals. The disease thus transmitted to animals is comparable to that in man in producing a relapsing fever, although animals infected do not always produce the disease by biting others and the exact mode of transmission is unknown. About 3% of Japanese rats are infected with the spirochaete, but the organism is not found in the saliva of these infected rats.

The disease is rare even in Japan. As far as I have been able to trace, only two other cases have been admitted to St. Bartholomew's Hospital since 1910.

Another case, tabulated as rat-bite fever, showed neither fever nor rat-bite, but developed subcutaneous swellings, following a dog-bite, which disappeared with N.A.B. injections. A case in 1926 under Sir T. Horder showed good signs and symptoms of the disease, but no spirochaete could be isolated. A case in 1927 under Prof. Fraser was reported in the *Hospital Reports* (1928, lxi) by Allott and Joekes. In this case Dr. Joekes isolated the organism by mouse inoculation with the blood of the patient.

I am indebted to Dr. Gow for permission to report this case, and to Dr. Bradford, of Horsham, for the temperature chart taken before admission and for the early history of the case.

E. G. C. DARKE.


THE LIFE AND WORKS OF EDWARD JENNER.

(Wix Prize Essay, 1929.)

I.

"Scire potestates herbarum usumque medendi
Maluit, et mutas agitare inglorius artes."

VIRGIL.

N 1770 came to London the youth who was destined to become the most famous man of his day, Nelson and Wellington not excepted. His name was Edward Jenner, and his native town was Berkeley. He was nineteen years of age, and he had received the education of a gentleman's son, his father having been the vicar of Berkeley. He had studied

surgery for six years in the manner of those days, as apprentice to a local surgeon, and he was now coming to London to complete his medical education by two years' work under the great John Hunter, in whose house he was to live as pupil-resident. He had no distinctions except a remarkably good knowledge of natural history based solely upon his own observations; from his earliest youth he had shown a keen interest in this kind of knowledge; he collected fossils, birds' eggs, nests of the dormouse and such odds and ends; he had a little museum of his own, carefully labelled.

The London to which he came was the ill-lighted, badly-paved London of the coffee-houses. The lad may have seen Johnson thumping the table, Boswell writing down in his notebook the mighty utterances of his friend, Goldsmith pathetically trying to distract attention from his ugly, smallpox-pitted face by the gay finery of his clothes; he may have gazed with wonder at these and other great men, whose fame he little expected to eclipse. But surely to him the most wonderful thing in London was John Hunter's house, with its menagerie and museum. Hunter soon noticed the keenness of his pupil and allowed him to prepare specimens for him. He recommended him to Sir Joseph Banks, that Mæcenas of science, who gave him the work of preparing and arranging the objects of interest brought home by Captain Cook, and even offered him the position of naturalist on Cook's next voyage. Jenner, however, did not lose sight of the fact that he was sent to London to learn medicine; he therefore declined the offer, as he subsequently declined to take part in Hunter's scheme for setting up a School for Natural History.

Jenner walked the wards of St. George's Hospital, where he was remarkable for the neatness of his dissections and his success in minute injections.

A firm friendship sprang up between Hunter and his pupil, and after Jenner's return to his native town a correspondence was kept up between them. All Jenner's letters to Hunter are lost, but Hunter's letters to Jenner, which have been preserved, give us some interesting glimpses of how he recruited his famous menagerie. Hunter encouraged the younger man to research, first and without much success upon the hedgehog, and later upon the cuckoo. These observations were more fruitful; they involved no mutilations, but only observations which were frequently delegated to his nephew and apprentice. The conduct of the young cuckoo described by Jenner was so amazing that for many years his account has been ridiculed by ornithologists, and the apprentice has even been accused of inventing it, to save himself the trouble of watching. The recent photographs and cinematograph film by

Mr. Edgar Chance have, however, established the truth of Jenner's observations. His paper on the subject was written in the form of a letter to Hunter, who brought it before the Royal Society in 1787; Jenner was subsequently proposed for the Fellowship and elected in 1789.

Jenner's observations were made in the spare moments of a busy life, for he quickly built up a successful general practice in Berkeley. He visited Gloucester and Cheltenham, where, on account of his London experience, he was often called in consultation. Once during the illness of the senior surgeon he operated successfully on a strangulated hernia at Gloucester Infirmary. He was dissatisfied with the uncertain action of tartar emetic, and devised a better method of preparing it. Hunter wrote his approval in a characteristic breezy letter. In a letter to Dr. Parry, of Bath, Jenner gives a quaint account of his discovery of ossification of the coronary arteries during an autopsy; this was the basis of his suggestion that angina pectoris was due to some morbid change in the coronary arteries. "At this time," writes Jenner, "my very valued friend, Mr. John Hunter, began to have the symptoms of angina pectoris, this circumstance prevented any publication of my ideas on the subject." He mentioned these ideas to Cline and Home, who were sceptical, but Jenner's diagnosis was soon verified by Home's autopsy on Hunter, who died of his disease in 1793.

Some minutes of the Gloucester Medical Society, published for the first time in 1896, contain records of the foundation of the society at Rodborough in 1788, with five members, all personal friends—Parry, Hicks, Jenner, Ludlow and Paytherus. Extracts are given from papers by Jenner on hydatids of the kidney (on which he consulted Hunter), swine-pox, mitral stenosis; and reference is made to a paper on disease of the heart following acute rheumatism, illustrated by dissections. This paper is unfortunately lost, otherwise we might be able to attribute to Jenner the discovery of this important association. Jenner was a member of another medical society which met at Alveston; he continually tried to interest this society in cow-pox, and we hear that they threatened to expel him for being a bore. His love of experiment was shown by his making the first balloon seen in Gloucestershire.

That he was popular with his patients as well as with his fellow-practitioners we know from reading his letters. Educated people enjoyed his conversation, and used to accompany him for miles on his rounds, even at midnight.

In 1792 his practice was so large that he gave up surgery and obstetrics and devoted all his attention to medicine, taking the diploma of M.D. from the University of St. Andrews.

He took a great interest in public affairs, and held the offices of Mayor of Berkeley and Justice of the Peace of Gloucestershire.

II.

"This is an Art
Which does mend Nature: change it rather; but
The Art itself is Nature."

SHAKESPEARE.

Of Jenner's boyhood, spent in his "cool sequestered vale," one episode was well stamped upon his memory. At the age of eight he went through the regimen of inoculation for smallpox. This ordeal involved a preparation period of six weeks, during which the patient was bled and purged, and kept on low diet, with plenty of fluids "to sweeten the blood"; then came the inoculation and course of the disease. This was followed in Jenner's case by a long period of bad health, with night terrors for many years to come.

Smallpox was never absent from England in the eighteenth century, and every person was tolerably certain of contracting it sooner or later. For those who boasted of not having had smallpox there was the saying, "Nemo ante obitum beatus." At a time when England's population was about seven millions, smallpox carried off 44,000 people a year, and the only means of acquiring immunity was by an attack of the disease itself. Death or disfigurement was the price paid for this immunity. Almost any woman whose complexion was unsullied was ranked as a beauty in those days. In foreign countries the toll was even heavier, some tribes of Indians in North America having been completely exterminated by the disease.

In the latter three-quarters of the eighteenth century the cost in England was lower. Direct inoculation had been introduced from the East, and was advocated by Dr. Richard Mead in a work of 1747. The operation was in the hands of specialists, who were not always medical men, and perhaps the practice did as much harm by spreading the infection as good by protecting those who were inoculated. It was left for Jenner to expound how the individual might be protected without risk of conveying his disease to others, and thus salvation was offered from the most terrible scourge which afflicted humanity at that time, and Jenner saved more lives and averted more misery than it had fallen to the lot of any man to accomplish from the dawn of history to his day.

The story of Jenner's great conception of preventing smallpox by inoculation of cow-pox is classical in its brevity and simplicity. The chance remark of a dairy-maid in Ludlow's surgery at Sodbury "rivetted Jenner's attention," and laid the foundation of his future observations to be published to the world thirty years later. During this interval he seems to have set the

idea aside, and returned to it again and again with that curious mixture of perseverance and dilatoriness which is so characteristic of him. "People do not know," he says, "how often professional men are liable to interruptions."

The notion that an attack of cow-pox conferred immunity from smallpox was prevalent in many parts of England among farmers and milkers; it was known to the inoculators of smallpox, but few believed in it, since exceptions to this immunity were common. Reference to this belief is found in the works of Beddoes, Woodville and Adams. Many people are said to have infected themselves with cow-pox intentionally in order to obtain this immunity. Inoculation of cow-pox was actually practised with success by Jesty in Dorsetshire, and by Jensen and Plett in Holstein, but it appears that both were deterred from continuing the practice by the severe inflammation which sometimes resulted. Let Jesty and Plett both have the credit, that is their due, but they both passed away and left no records of their observations.

Jenner encountered many difficulties in his investigations. Cow-pox was a rare disease, and the term was applied to anything in the way of eruption, excoriation, abrasion or fissure that could attack the teats and udders of cows. Horse-grease was another all-embracing name, which is nowadays applied only to seborrhœa of the heels, but Jenner applied it to the now rare horsepox, which also attacks the heels of horses. The filth and darkness of the country cow-houses made observations difficult and unpleasant. Jenner had to avoid taking all sorts of extraneous matter; he had to decide whether matter either from the cow or from the human arm should be taken in the vesicular, pustular or ulcerative stage of the disease. With such materials it is not surprising that some of his first efforts were followed by "erysipelatous inflammation."

His activities were ridiculed by his colleagues; hence we find him confiding in his friend Gardner as they rode together between Gloucester and Bristol one day in 1780, because "Gardner will not talk about it," and because if anything untoward happens, "I shall be made, especially by my medical brethren, a subject of ridicule, for I am the mark they all shoot at." In 1787 he went with his nephew George into a stable to see a horse with diseased heels. "There," said he, "is the source of smallpox. I have much to say on that subject." In 1788 he took his drawing of a cow-poxed hand to London and showed it to Hunter and to Clines, who regarded it as an "interesting and curious object." "Why think—why not try the experiment," was Hunter's advice. Others sneered at Jenner's views, particularly Haygarth, the author of the isolation

method for treating smallpox, which failed so dismally in Chester in 1794.

Jenner was discouraged, and was silent on the matter for some years. In 1795, however, Fosbrooke tells us that his work really began in earnest. In 1796 his classical experiment was made; he inoculated a boy of eight with cow-pox matter from a dairymaid's hand. The degree of severity of the reaction was not accurately described, but the boy was found to be immune from smallpox. Jenner describes this experiment in a triumphant letter to Gardner. He waited to collect a few more cases of failure of smallpox inoculation after cow-pox; he then felt enough confidence to write his paper on "Cow-pox," which was intended for the Royal Society.

This paper is preserved in its original manuscript at the Royal College of Surgeons. The author describes "grease" and cow-pox, and states the supposed connection between them. He then describes ten cases in which smallpox inoculation failed after cow-pox, and three cases in which it succeeded after "grease." He states one case in which cow-pox occurred three times, and cannot explain it. He describes the experiment on the boy Phipps. In conclusion he proposes to substitute cow-pox inoculation for smallpox inoculation.

This paper never came before the Society, since its appearance is not recorded in the archives. Probably Home showed it informally at a Council meeting, where it was rejected for further corroboration, and Jenner was advised not to risk the credit he had already gained by presenting anything so ostentatious and so much at variance with established knowledge on such slight evidence.

Jenner soon recovered from this blow; he was accustomed to the opposition of his colleagues. He set to work with renewed vigour to collect more evidence. But no cow-pox could be found anywhere in his neighbourhood. His impatience can well be imagined; he felt that the death of every smallpox victim lay at his door, if he relaxed his efforts or delayed a day longer than necessary in publishing his views.

Early in 1798 the cow-pox broke out again, a calamity to the farmer; but we can picture the joy of Jenner as he clapped his broad-rimmed hat on his head and his silver spurs to his heels and rode forth, a strange knight-errant, to make an end of a long, long quest.

III.

"The one talent which is most worth all other talents in human affairs is the talent of judging right on imperfect materials, the talent if you please of guessing right."—STEPHEN.

In 1798 Jenner published his famous *Inquiry*, a quarto volume of seventy pages, upon which his fame

rests. It was dedicated to Dr. Parry, of Bath, and contained the substance of his rejected paper with a few additions. It was described by Baron as "the triumphant conclusion of more than thirty years' reflection."

Briefly, he held that the teats of cows are subject to various eruptions, of which only one was the true cow-pox; that it was derived from the "grease" of the horse; that cow-pox produced no general eruption in the human subject, and that any indisposition resulting from its inoculation was due to irritation and inflammation, not to the virus, and was therefore accidental and not essential; that matter for inoculation, whether of horse-pox, swine-pox or cow-pox, should be used before it becomes purulent, otherwise it will be ineffective; when smallpox matter is used to test the success of vaccination, the same rule should be observed; that the immunity conferred by proper vaccination is permanent. He assumes that cow-pox is smallpox of the cow, and coins the terms *variola vaccinae*; also that "grease" (horse-pox) is smallpox of the horse; both these views have been hotly disputed, but are now regarded as correct. That the latter disease is parallel with the former and not parent of it, as Jenner thought, is a detail. The view that immunity was permanent was his most serious error and produced much perplexity later on. Eleven years later he wrote, "The human frame, when once it has felt the influence of cow-pox, is never afterwards at any period of its existence assailable by smallpox," and to this view he held tenaciously for the rest of his life.

It has been noticed recently that the *Inquiry* contains a description and explanation of the phenomenon of anaphylaxis, which is attributed to the dynamic effect of a permanent change in the blood during life.

The *Inquiry* came in the nick of time; by it Jenner transformed a local belief to a national one, and obtained first place as a medical observer and pioneer. The first man in London to try vaccination was Cline; he was amazed by its success and wrote to Jenner for more lymph, urging him to come to London and set up a practice there, promising him an income of £10,000 a year. Jenner did not accept this suggestion, and it would appear that his stock of lymph was exhausted. A fresh stock was obtained in December, 1798, but gave bad results; things were at a standstill.

At this point the scene changes to London, where an outbreak of cow-pox in Gray's Inn Lane provided material for a long series of experiments by Pearson and Woodville; the hands of the dairymaids presented an appearance exactly like the illustration in Jenner's book. Banks and others came and were struck by the similarity. A specimen of the lymph was sent to Jenner, who used it with excellent results, and similar specimens

were sent to Berlin, Vienna, Geneva, Hanover, America and elsewhere. Woodville, who was resident inoculator in the Smallpox Hospital, published a book based on six hundred experiments, reporting a general pustular eruption, which he took to be one of the phenomena of cow-pox. Jenner held that this result was due either to contamination of the vaccine lymph with smallpox, or to the inoculation test having been made too soon after vaccination. Woodville realized his mistake just a month after his book was published.

In March, 1799, Pearson was already lecturing on vaccination as if it were his own discovery, and Jenner received a letter from his nephew in London urging him to come and retrieve his laurels, or his fame and fortune would be lost. Pearson determined to organize an institute for vaccination; he obtained distinguished patronage, and wrote offering Jenner the position of "corresponding physician." Jenner declined with some asperity. The errors of Woodville and Pearson had involved him in a harassing correspondence with critics. Jenner's "Golden Rule" was to take the lymph from the arm at an early stage before the areola had appeared. This rule was openly scouted by several vaccinators, and entirely neglected for a long time in America, where a shirt-sleeve stiff with pus was cut into strips and sold for "kine-pox."

After publishing *Further Observations* in April and *Continuation of Facts and Observations* in December, 1799, Jenner came to London, and with the help of Lord Egremont managed to defeat Pearson's proposal for a vaccine institute by making similar proposals of his own. He had the satisfaction of being presented to the King by Lord Berkeley, and also to the Prince of Wales. He spent six months in London promoting the cause of the new inoculation; he vaccinated the whole of the 8th Regiment, which operation was complicated by the fact that they were all suffering from scabies and by other difficulties. The sailors of the fleet were all vaccinated about this time, and a gold medal was given to Jenner in commemoration of this event.

The Origin of the Vaccine Inoculation was published in 1801. Jenner was soon afterwards obliged to present to Parliament a petition for a grant of money. Stress was laid on the fact that the new discovery was made known to all, whereas the author could have reaped a harvest of £10,000 a year if he had kept his secret to himself. He had been put to great expense; his postages often came to £1 a day. So great was the call on his time and pocket by those who, in all parts of the world, were anxious to obtain information from him, that he called himself the "Vaccination Clerk of the World." Pearson opposed the petition on the ground that the discovery was not Jenner's, and that he had not played

the chief part in making vaccination current coin, but the decision of the House of Commons was unanimous in favour of Jenner, and a grant of £10,000 was made.

In 1803 several friends in London resolved to form a society with Jenner as president, under distinguished patronage. Their object was to vaccinate gratuitously, and to send virus to all parts of the world. Thus came into being the Royal Jennerian Society; Jenner came to London and started a practice in Mayfair, but this proved a failure. His grant was not paid until 1804, and he was regarded as a public servant in consequence of it. He was called upon to vaccinate the poor gratuitously, sometimes as many as 300 a day. He gave up this practice before long, and the Royal Jennerian Society, deprived of his presence, lost touch with his teachings and soon went to pieces through bad management and lack of funds.

In 1806 Jenner made a second petition for money, and after a favourable report on his work from the Royal College of Physicians, £20,000 was granted. Vaccination was commended. "Its truth seems to be as nearly established as the nature of such a question admits. The public may look forward to the end of the ravages, if not of the existence of smallpox."

In 1808 Jenner spent five months in London organizing the National Vaccine Establishment, acting as director. During his unavoidable absence owing to the illness of his son, the officers were appointed by Sir Lucas Pepys, Jenner's nominations being ignored; he, therefore, resigned, but gave the institution the benefit of his advice when needed.

IV.

"At pulchrum est digito monstrari et dicier, Hic est."

PERSIUS.

Jenner's second grant was accompanied by minor grants from various public bodies, and honours poured in from all quarters. Forty-seven diplomas, honours and addresses were awarded to him, and before 1812 he was made an honorary member of almost every medical society in Europe. The freedom of the cities of London, Edinburgh, Glasgow, Dublin and Liverpool was conferred on him, and a service of plate from Gloucestershire was one of his earliest gifts. He appreciated most the praise of the members of his own profession; honorary degrees and fellowships were conferred on him, and most of the English medical societies passed resolutions in his honour. Only one corporation of rank from which a favour was sought refused. The Royal College of Physicians would not have him save by the usual examination—a decision for which it has always withheld any explanation. Jenner, hearing that the examination included a paper in Classics,

exclaimed, "I would not do it for a diadem. It would be irksome beyond all measure. I would not do it for John Hunter's museum!"

It is marvellous to see how quickly and ubiquitously vaccination spread over the world in the three years which followed the publication of the *Inquiry*. Outside his own country Jenner's success was complete.

In England, although most medical men and the best in the profession, such as Abernethy and Lettsom, saw that a great discovery had been made, yet the movement was strongly opposed by an influential section of the profession. The earliest and most formidable antagonist of vaccination was Dr. Ingenhousz, of Vienna, an experienced inoculator, who happened to be on a visit to England at the time of the publication of the *Inquiry*. He held that cow-pox might give immunity from smallpox in a few cases, but certainly not in all. He would not hear a word in defence of Jenner's theory of its origin, although Jenner sent his friend Paytherus to talk him round. He disbelieved in spurious smallpox and spurious cow-pox. He spoke handsomely of Jenner, and advised him in a friendly way to collect more facts and secure his ground as he advanced, not to be in a hurry to publish a second time on cow-pox. Moreover he declined to enter into controversy; it would appear that he soon began to doubt Jenner's sincerity in the matter of spurious cow-pox.

Jenner felt this antagonism very keenly, and was at a loss what to do; he wrote to Gardner for advice and sympathy. His future peace and his very existence were at stake; he had no lymph to work with; his last experiments had given bad results; he was almost in despair. By 1804 failures had multiplied to an alarming degree, and many of Jenner's friends lost heart, but Jenner expained them all as due to spurious vaccine, and gave expectations of a book with accurate coloured plates to enable his colleagues to distinguish between the true and the spurious pustules. This book never appeared, but in 1809 Jenner published a paper on "Variations and Modifications of the Vaccine Pustule occasioned by the State of the Skin."

In 1811 conspicuous failures of vaccination to protect from smallpox occurred, and notably the case of the Hon. Robert Grosvenor. The state of feeling in London was such that Jenner resolved never more to think *pro bono publico*, and he advised Moore to do the same, "for we are sure to get nothing but abuse for it." Jenner was actually summoned to appear before the House of Lords; this unnerved him and aged him considerably; for weeks he had recourse to brandy and opium to give him appetite and sleep. The meeting was, however, abandoned, to Jenner's great relief. All Jenner's friends wrote to him for advice, and

domestic troubles about this time combined to reduce him to melancholia. He refused to take any further part in controversy with objectors: "I know very well the opinion of the wise and great; the foolish and little I don't care a straw for."

The most honoured man in Europe was one of the most unhappy. Jenner was "sick of the life he led in London." The death of his wife in 1815 was the signal for Jenner's retirement from the fast and furious whirl of public life. He never left Berkeley again for more than a few days.

V.

"Spectatum satis, et donatum iam rude."

HORACE.

While his fame continued to spread through the world, Jenner spent his closing years in the seclusion of his native village, doing the things he had liked to do in his boyhood; he wandered over the countryside in search of fossils; he worked in his garden; he marked his specimens with careful fingers. We hear of the strange disorder of his study. Jenner loved the country so much that he was continually joked about it. He was for ever picking up stones and examining them; he made his companions tread warily every time he saw a bird or heard a well-known song. He had a curious sentimental attachment to certain objects. He obtained the hide of the cow that had infected the hand of the dairymaid who furnished the lymph for his classical experiment. Baron saw this hide hanging in a coach-house, and asked what was to be done with it. "Send it to the British Museum," said Jenner. The hide is preserved in the Pathology Department of St. George's Hospital. The horns of the same cow are exhibited in a well-known dispensing establishment in Worcester.

Jenner's paper on the "Migration of Birds" belongs to this period of his life. A charming note describes how moths feed upon the night-flowering primrose.

He vaccinated all the poor gratuitously, and had a special place for the purpose erected in his garden, called the "Temple of Vaccina." Although the epidemic of smallpox in 1818 brought discredit upon Jenner, the good reports received from abroad and published by the National Vaccine Institute, and the efforts of Baron and of Sir Gilbert Blane did much to restore the credit of vaccination. Jenner's paper on the "Effects of Artificial Eruptions" was printed in 1822.

On January 24th, 1823, Jenner saw a patient whom he describes as being "in a state of paralytic debility." The following day he was himself found insensible on a couch, in a condition similar to that of the last patient he ever visited. The faithful Baron was summoned, but in vain. Jenner died on the next day. He was

buried in the chancel of Berkeley Parish Church. This is his epitaph:

"Within this tomb hath found a resting place,
The great physician of the human race,
Immortal Jenner, whose gigantic mind
Brought life and health to more than half mankind."

In forming an estimate of any great man's character there is a *via media* lying between enthusiastic praise and the bitter malice of opponents. Baron was so great a worshipper of Jenner that his statements were often warped by his affection for his friend, and his book is valuable only for the large number of letters which are published in it. On the other hand, those who have been opposed to vaccination and cannot, or will not, see the benefits of it, can hardly find words to express their contempt and loathing of Jenner. This difference of opinion exists even in his own district, where some have heard of him as a contemptible man who appropriated a common notion, full of vanity and selfishness; others regard him as the great benefactor of humanity. In the present century one writer has described him as crafty, vain and petulant, a fool, a liar and a shuffler, an "old man of the sea on the back of the profession"; facts have been distorted and a bad motive found for all his actions. Another authority has described Jenner's detractors as "ignoramuses, fools, knaves and cranks," better left in the obscurity into which Jenner's fame has cast them.

That he was a great man of the type of Hunter no one would assert. A patient and accurate observer, but dilatory and perhaps unmethodical, not possessed of great manual dexterity, but full of perseverance, he was commonly looked on as having "a bee in his bonnet" about cow-pox.

He was unsophisticated and guileless, full of candour, and given to outbursts of humility; quite unspoiled by flattery, quick-tempered in answering his critics. He was a good doctor, popular with his colleagues, especially young practitioners, and much beloved by his family and his neighbours. He seems to have lived, while in Berkeley, the happy life of the perfect country doctor.

VI.

"Time is the judge, time has nor friend nor foe.
False fame must wither, and the true must grow."
YOUNG.

For a time it was fashionable to sneer at the claims of Jenner in connection with the introduction of vaccination; it was perhaps forgotten that the same materials were ready to the hands of other observers, but no one seemed to think them worthy of investigation. Jenner not only showed so well how to prevent smallpox that most doctors nowadays have never seen a case of it, but from his discovery followed further advances in the field of protective inoculation, which have added lustre

to his fame. If utility to human life be any test of what is noble in labour, Jenner's work may rank with any achievement of man. Simon writes, "The close of the eighteenth century, which had so much to darken it, will be remembered to the end of human history for the greatest good ever yet given by science to the world."

Jenner opened the door to a whole realm of therapeutics, of which we have by no means yet surveyed the whole. Pasteur was born thirty days before Jenner died; their lives overlapped by a month and their life's labours were closely related. It seemed as though the one great worker handed on the torch of science to the other. Pasteur himself acknowledged that the credit of the discovery of the attenuated virus was due, not to himself, but to Jenner. "Sans Pasteur, Lister serait resté inconnu. Sans Jenner,—qui sait,—le grand œuvre de Pasteur serait peut-être resté stérile." These are the words of Sir StClair Thomson, speaking at the Jenner Celebration in Paris in 1923. From the East the chorus of Jenner's praise has not yet diminished. A few years ago a famous Persian statesman, on a visit to the Royal College of Surgeons, asked first to see Jenner's lancets, and spoke feelingly of the manner in which whole Asiatic countries had been rescued from a scourge more terrible in the East than ever it was in Europe.

Thus Jenner's monument is his work; and if in our own country Jenner is in danger of becoming a legendary figure to most of us, it is only a proof of the completeness of his victory over one of the formidable shapes of death. "Often the thoroughness of a reformer's victory is that which most makes silence of his fame."

Jenner's work still goes on. If its consummation be reached, we may, in the words of a modern historian of medicine, expect improvement in health and prolongation of life to a degree greater than any previous ages have seen. "Medicine cannot give immortality, but it should enable us all to live out our full lives. Death coming in due time is shorn of all his terrors when every man shall 'come to his grave in a full age, like as a shock of corn cometh in, in his season.'"

W. S. BAXTER.

SMELLS.



WHEN out of the scents of the countryside, the sweet breezes and pleasant odours of trees and flowers, the smell of wet earth (whose origins in decay are hidden from us), and the vapours of the sea, we enter this strangely beautiful capital of England, shining against the dawn with white stone

and spacious streets, and rising to welcome the sunlight undefiled by the dung of cattle, we experience no change, for we have noticed neither. When, however, we come into the houses reserved for those fallen sick in spite of superior sanitation, we do notice something, for it is forced upon us. All about floors and walls and ceilings in passages and rooms the air is rich with—we cannot guess what, but as pigs smell of pigs, so do hospitals of hospitals.

Life is not to me, as it is to a dog or a gazelle, a succession of smells; I am without the sense of smell. And I am happy to risk sudden extinction by coal-gas, and new-laid eggs, and eau-de-Cologne, and even to forgo the detection of situations (a lady assures me they can sometimes be smelled), and the taste of unknown foods, if I may escape also the fouler odours of life; particularly those of situations—how terrible must be the scent of that zenith of stagnations, the contentment of men! I write from imagination and hearsay even of a medical student's dog-like or gazelle-like existence.

The scents of your earliest years I will pass over, because you will not remember them. The odours that embraced us in the womb, at birth, in infancy, may have made a lasting impression on the mind, but it is an unconscious one. Nearer our sphere are the airs of childhood, but this part of your life did not really begin till out of the sweet atmosphere of London you came into the evil vapour of a hospital.

From unknown realms this odour percolates everywhere. The luncheon water tastes of it, and it alters even the smell of dogfish. Fish have unhappy ends, by the holocausts of men. Yet can we say, remembering what you endure, and the extreme sensitivity of fish to smells, that a dogfish is unfortunate in dying before it enters a hospital? I do not wonder few fish care to breathe the air; even the Dipnoi filter it through mud, and the whale cleanses it in salt spray. For not wandering scents such as we know, tossed by the winds, but, in the still deeps, stable odours, rocked only by the lash of a tail, and the swift ravin of a marauder, and slowly swayed by the tides and diffused imperceptibly through the length and breadth of the sea—such a world of smells do fish inhabit. That must be happiness. Yet what we men lose in delight we gain in safety. In this more tenuous atmosphere, where gravity exercises a stronger claim upon us, eruptions may bury us from above, but cannot hurl us with burst lungs to float in decay on the waves of the upper air.

In a high seclusion the water of stagnant ponds is set before us. Decaying weeds and leaves have given it its joys, as they have given also a living liquid to its mysterious inhabitants. Poison to us is the elixir of the young life of the world. In their myriads they

excite our wonder and imagination; they exercise our minds in memorizing the arrangement of their transparent interiors, our intelligence in inventing reasons for what must be to them obvious behaviour—that is, without reason—and our artistic and photographic senses in defining their posturings and drawing them. They also make green spots on our clothes.

More memorable of the peace outside cities is the worm, whose earthly smell gives no hint of the rare effluvia to exhale from his incised and septate interior; we almost believe that each annulus has a separate and distinguishable emanation. Those of us that have dissected worms more leisurely at home, returning to our specimens after a week-end, have learnt enough of his microcosm to last us a lifetime; even that he is sometimes viviparous.

With the ascent of the animal scale, the stages of decay increase in number, and therefore our repertory of smells named in the chemistry laboratory (where every smell must be named, in order that it shall be recognized) increases, and our flow of abusive adjectives is *pari passu* enlarged. The dissociation of the frog is an introduction to all other departments except that of physics. Even in the electrical departments there are ozone, sulphur, rubber and occasionally the smell of burnt flesh. In the physics laboratory many recover their smell, but lose their hearing. Even while it lives, the frog stinks. Male and female are they made, and each has a distinguishing odour, his stronger, hers more persistent. Their eggs also would be found odoriferous if anyone could bear to approach his face near enough to assay them.

The dogfish is known to most, and from the others I will conceal it to the last. If only the ancient world had replaced on its altars the bull, the sheep and the goat, and in its brazen censers the myrrh and cinnamon, with this fish, the cost and labour might have ceased, and still the vapours of sacrifice would have ascended for ever. Fire would have been granted to man without the torments of Prometheus, without the punishments of Pandora, without the fall of Zeus himself. The young gods would have had a weapon stronger than the thunderbolt, that would have made their enemies the giants like children. Walhal would have raised its towers eternally, and Ormazd and Hathor stood for ever in the light, while over Ireland the Sidhe in their wonderful beauty would have roamed and been visible to this day instead of living hidden in the Danaan duns. But it is too late. Evil can preserve, but it cannot create.

No one will know the scent of the rabbit till the smell of the dogfish goes up from earth to heaven. Night and day these scents arise, and the five are one year.

In the dissecting-room we sit down, like feudal lords, to the whole animal. We carve and tear with teeth and hands, till at last each of us, like a dog, retires with his bone into a corner. For eighteen months we gnaw this half-preserved brawn till strange madresses take hold of us, and some sit and gibber and are rewarded, and others never become articulate, and remain and gnaw for ever. It is in fear of this intoxication that the meat is impregnated with a sauce held to conceal the scent even of the fairy blooms that grow in the vales of our fathers. The flower takes this and that from the soil and the air, and knits them into the odour it gives out. The herb that grows on this soil and the worm that breaks its clods each removes something of its essence till what is left is indistinguishable from the hills around, and on the air is an aroma that is the sole betrayer of the plant's source of life. We are all saprophytes, and vary only in our ability to ignore smells. I am naturally at an advantage over those whose road to salvation lies in ignorance. I do not have to shut my eyes to the pubs and join temperance societies in order to keep sober. I smell by an act of the imagination, and the more I smell the more I wish to smell, because this makes me more sober, and not less. If it did otherwise, I should get drunk.

Histology, like organic and bio-chemistry on another plane, is an investigation of the minute components of smells. The passing of flesh into oblivion owes its completeness to the levity of these vapours, and, but for that tenuity, which enables them to pass the finest mesh of our containers, we could by assembling them in the correct proportions and order create life. The act of dabbing tissue with a coloured chemical is a sacred act, as are all acts that involve our whole attention; and the hue assumed by the tissue is the key to its name, which is vital, because when we have named it we know it. When we have learnt all we can about anything the learning is useless to us till we have given the thing a name. Then, in one moment, is altered the whole course of our life. Our religion, our philosophy, our attitude to the arts, the aspect of science itself, are coloured with the dye under whose direction we have invented a name. Nothing in our world remains as it was before. Mountains become dykes, and dykes mountains; rain falls as gold, and gold spatters as rain; the dry land becomes a swamp, and the sea firm ground; it even alters our relations with our wives.

Therein is the superiority of wisdom to learning. It is evinced again when the student who can recognize an abscess on sight, and is about to incise a popliteal aneurysm, is prevented by someone who merely notices that it is pulsating. After all, it is the student who

discovers that it is an aneurysm. If he had not detected this he would have found himself the centre of one of those human cyclones which (I am convinced) occur solely because a number of smells have been released on the world before their time. The whole labour of medicine and surgery is directed to delaying the inevitable exodus of aromas; success in those is judged by success in achieving this, and vast sums are spent in holding back that which little or nothing is expended to make worthy of retaining. Go thou (you will) and do likewise. On that I close. S.

STUDENTS' UNION.

RUGBY FOOTBALL CLUB.

It was a great pity that the game against the Old Paulines on September 28th had to be scratched, but our policy was justifiable as the ground was quite unfit.

So far we have played three games and lost them all. This appears at first to be rather discouraging, but they have all been matches against very strong sides. On the whole the prospects are very good, and we should have quite a useful side by the time Hospital Cup-Ties come along.

We have been unfortunate in casualties. Darmady hurt his knee against the Old Millhillians and has been unable to play since; this was especially bad luck as he was unable to play in the Cambridge Seniors' match. Nunn also hurt his knee against Richmond after showing great form, and Grace and Prowse both hurt themselves against Bristol.

The forwards show great promise; although rather light they manage to get their share of the ball. The three-quarters, well served by Taylor and Beilby at half, are good in defence, but their kicking is weak.

The junior teams have done extremely well, and on two successive Saturdays all the junior sides have won their matches. The "A" beat Haileybury and the O.M.T.'s "A," both very useful sides, and they should maintain an unbeaten record for some time.

The Freshers' match, like all freshers' games, was scrappy but showed some talent. Pirie, Curtis and Moynagh seemed to be the outstanding lights and should be useful. J. M. J.

ST. BARTHOLOMEW'S HOSPITAL v. OLD MILLHILLIANS.

Result: Bart.'s 5; Old Millhillians, 11.

October 5th, at Winchmore Hill.

We won the toss and chose to play with the wind. At 3.30 Ramsay, the visitors' captain, kicked off. Play then settled down about the half-way line. The game continued quite evenly for the first 15 minutes, after which the O.M.'s began to get the ball more frequently than Bart.'s in the tight scrums. From one of these the ball reached their left wing, who ran along the touch-line as far as our "25," drawing the defence towards him. Here he cross-kicked: the ball bounced twice, and J. S. Anderson, one of their forwards, running at speed gathered it and scored easily under the posts. Carris converted. Ten minutes later Darmady, who was playing a strong game, almost scored, being pulled up two yards from the goal-line. Bart.'s from this time pressed continually. From a drop-out in the O.M.'s "25" the ball was caught by one of our forwards and passed. It went quickly from the right through eight pairs of hands until it reached Prowse, who, drawing his opposite number and puzzling Carris, their right wing, gave a well-timed pass to Powell, who ran with great determination to score a fine try near the corner flag. Capper, despite a troubling cross-wind, kicked an excellent goal.

Immediately following the re-start of play Bart.'s again attacked and Edwards was unlucky not to score. Half-time arrived with the score 5-5. In the first five minutes of the second half Colman, the O.M.'s scrum-half, secured the ball, and ran, untouched, straight through our three-quarter line, but was well tackled by Ryan near

the line. Play now settled down in our half, with the O.M.'s getting slightly more of the ball than us. As the result of "feet-up" in the scrum we were penalized and Carris kicked a penalty goal from near the half-way line. Play again settled down in our half, and very shortly after Carris made a mark; he gave the ball to Colman to place for him, our forwards charged before the ball was placed in the mark, and "no charge" was ordered. Carris then took the kick at his own leisure. The ball passed between the uprights but touched Darmady in its flight and no goal was allowed. Our forwards now made some excellent rushes and reached the visitors' "25." Here we had more than our share of the ball and might have scored on two occasions, but things would go wrong at the crucial moment. Five minutes from the end play was carried back to our half. The opposing packs were evenly matched and playing all out. When we heeled Taylor would make well-judged punts to touch. Following a line-out passing between the O.M.'s forwards resulted in Howard's scoring a try far out. Carris failed to convert. Final score, O.M.'s 11, Bart.'s 5.

Team: T. J. Ryan (*back*); A. H. Grace, G. F. Petty, C. B. Prowse, J. D. Powell (*three-quarters*); J. A. Nunn, J. T. C. Taylor (*halves*); C. R. Jenkins, V. C. Thompson, H. D. Robertson, W. M. Capper, J. M. Jackson, J. R. Jenkins, E. M. Darmady, H. G. Edwards (*forwards*).

ST. BARTHOLOMEW'S HOSPITAL v. RICHMOND.

Result: Bart.'s, 6; Richmond, 21.

October 12th, on the Richmond Athletic Ground.

This was rather a disappointing game, for after the Hospital had hammered at the Richmond defence for the first twenty minutes of the game, during which time we had far the greater part of the attack, nothing came of such an enterprising start, and Richmond for the rest of the game did most of the attacking. Nunn scored a very good try, for after securing the ball he kicked over the Richmond line, and following up, beat about three Richmond men to touch down quite near the posts. A few minutes later Nunn again secured the ball and gave Prowse a well-timed pass, who managed to score a splendid try fairly far out. Both kicks at goal, one by Ryan and the other by Capper, failed.

The pack played together well, especially in the tight, though people were rather too fond of not getting in properly in the loose. Our chief failing is in the line-outs. The tackling was good on the whole but there were too many missed passes. The three-quarters, after starting so well and showing great possibilities in attack, were chiefly on the defence; they still need a lot of practice together. Taylor played well at half, and his well-timed punts to touch gained us much ground on occasions. Ryan at full back was fairly safe; his kicking needs more length, but no doubt this will come after a little practice. Richmond proved to be a fairly useful side, but they missed many chances.

Team: T. J. Ryan (*back*); A. H. Grace, J. A. Nunn, C. B. Prowse, J. D. Powell (*three-quarters*); F. J. Beilby, J. T. C. Taylor (*halves*); C. R. Jenkins, V. C. Thompson, H. D. Robertson, W. M. Capper, R. N. Williams, J. M. Jackson, J. R. Jenkins, H. G. Edwards (*forwards*).

ST. BARTHOLOMEW'S HOSPITAL v. BRISTOL.

Result: Bart.'s, 6; Bristol, 22.

October 19th, on the Memorial Ground, Bristol.

This was a most enjoyable game, and the Hospital showed much better form than against Richmond. Bristol turned out a very strong side, including T. W. Brown, A. W. Lillicrap and J. S. Tucker.

Bristol were the first to score, Sherman securing a pass from Jones and scoring far out. The kick by Burland hit the posts. Grace scored a fine try for Bart.'s soon after, the kick by Capper failing. Sherman scored Bristol's second try, which was converted with a splendid goal by Burland. Just before half-time Sherman scored his third try. Everett scored a try for Bristol on resuming after half-time. This was a disgraceful piece of work, as he was allowed to run through our defence after three Bart.'s men had tried to tackle him. It, however, gave us a lesson in how to run all out for the line. Powell scored a magnificent try for the Hospital soon after; Capper did not convert. Bristol obtained further tries by Everett and Lillicrap, Burland converting one of them. Bart.'s played very well on the whole. The forwards were not quite as good as against Richmond but they packed well in the tight. The tackling on two or three occasions was very weak. Lewis came into the side instead of Darmady, who was unable to play on account of a knee injury.

The three-quarters defended well, and it was very bad luck that both Grace and Prowse were injured. Powell played extremely well, and he was unlucky in not scoring a second try when he was brought down a few feet from the line. Burrows tackled well and made some good openings. The kicking was poor and showed up very badly against the fine Bristol kicking. Beilby showed better form at stand-off half and Ryan played a steady game.

Team: T. J. Ryan (*back*); A. H. Grace, T. E. Burrows, C. B. Prowse, J. D. Powell (*three-quarters*); F. J. Beilby, J. T. C. Taylor (*halves*); C. R. Jenkins, V. C. Thompson, H. D. Robertson, W. M. Capper, R. N. Williams, J. M. Jackson, J. R. Jenkins, B. S. Lewis (*forwards*).

ASSOCIATION FOOTBALL CLUB.

The Association Football Club opened its season with an away match against Aldenham School 1st XI on September 28th. Though not at full strength the team played keen football and succeeded in winning by 3 goals to 1.

A trial match was held on October 6th, and very satisfactory form was displayed by most of those tried. As a result of this game the 1st XI which played at Woolwich on October 12th against R.M.A. included three freshmen, and their high standard of play was particularly gratifying. The team played excellently to win this match by 3 goals to 1, and the marked degree of team spirit and the absence of too much individualistic play augurs well for another successful season.

Results.

September 28th: 1st XI v. Aldenham School 1st XI, won, 3—1.

October 12th: 1st XI v. R.M.A. Woolwich 1st XI, won, 3—1.

October 12th: 2nd XI v. Old Stationers, lost, 2—5.

October 16th: "A" XI v. East London College, lost, 2—3.

REVIEWS.

ESSENTIALS OF GENERAL PHYSIOLOGY. By ERIC PONDER. (New York: Longmans, Green & Co., 1929.) Pp. vii + 491. Price 15s. net.

The characteristic of general physiology is its concern with the nature of the mechanisms underlying the various phenomena connected with the vital processes. It includes all living material, and demands that these vital processes should be transcribed in known physical and chemical terms. With this broader definition it abandons the restricted outlook obtained when the phrase "cellular physiology" was used. This introduction to the subject is intended for the use of students at the commencement of their physiological studies, who have learnt the elements only of chemistry and physics. To this end the first five chapters deal with physico-chemical subjects, thereby forming the basis of the later part of the book, which deals with the various vital processes. The mechanisms of these processes are presented in a manner which can be readily followed, although it would seem that in some places essentials have given place to a real treatise on the subject. The book is free from bias, as regards any theories which as yet are not proved. It is well printed and produced. It can hardly, however, be recommended as a suitable purchase for those at the commencement of their studies in physiology for medical purposes; it would rather appear to be intended for those who mean to study physiology more fully, and for them it is an excellent introduction.

LANDMARKS AND SURFACE MARKINGS OF THE HUMAN BODY. By L. BATHE RAWLING, M.B., B.C., F.R.C.S. Seventh Edition. (London: H. K. Lewis & Co., Ltd., 1929.) Illustrated. Pp. viii + 97. Price 7s. 6d. net.

Changes in the landmarks of the human body are evident only to the geologically minded, whose seconds are centuries. Since no new system of surface markings has been devised, and since the newness of this edition resides in a few illustrations, it may be assumed, correctly, that the book is now of its kind perfect. Thus ends work begun at this hospital by Luther Holden in 1866. In the first of his essays on "Medical and Surgical Landmarks" in the second volume of the *Hospital Reports*, he writes: "The following observations are not made with the idea of exhausting the subject, but rather to induce in students the habit of looking at the living body

with anatomical eyes, and with eyes too at their finger's ends." The essays, published in book form, went through four editions between 1876 and 1888.

There the matter rested until the present author, in 1904, feeling the "urgent need of a handy book which describes and illustrates the more important landmarks and surface markings of the human body," filled the "gap in the series of text-books." The two confessions printed together show something of a change in medical teaching, which the reading of the two texts shows even more clearly. Which method, if indeed either, is the better can only be judged by the kind of doctor produced.

Of the value of this book, a necessity for the medical student from his first contact with human anatomy, there can be no two opinions; and Mr. Rawling is to be congratulated on having seen into the world during twenty-five years a week of editions.

THE BRITISH JOURNAL OF UROLOGY. (Constable & Co., Ltd.)
Published Quarterly. 20s. per annum.

As each special branch of surgery increases in importance and the number of its adherents, so does the literature increase and thus the demand for new journals arises; hence the appearance this year for the first time of the *British Journal of Urology*. With such editors as Mr. Frank Kidd and Mr. Winsbury White, and with the imposing list of those on the Editorial Committee, this new journal is certain to "enjoy a long and useful life," to quote from the letter of greeting from Mr. Hurry Fenwick, one of the most famous of all urologists. We are glad to see the names of a number of physicians on the Editorial Committee, so that the medical and bio-chemical side of urology may not be lost amid the galaxy of surgical urology.

In addition to a number of original articles there appear several sections in the journal which we hope will continue to appear quarterly. Amongst these must be mentioned especially the Abstracts from Current Literature, the literature covered being very widespread, no less than 80 articles on urology being abstracted in the March number. The Index Medicus, Urological Hints for Practitioners and Bio-Chemical Notes are also very valuable, and if regularly continued will help greatly to spread the journal far outside any small circle of urological specialists.

The excellent example set by the editors of including a Time-table of the Work of Urological Clinics in London and the Provinces might well be followed by other editors. Amongst seven original articles, all of which reach a high standard, those by Duncan Morison, F.R.C.S.(Ed.), on "Animal Experimental Work to show the Routes of Absorption in Hydronephrosis," and the one by Dr. Maurice Meltzer, of New York, on "Surgical Aspects of Polycystic Disease of the Kidney," seem of special interest. We hope that the number of notes on interesting cases will increase as the journal grows older.

We wish the *British Journal of Urology* a long but calm journey as it goes out to all countries where urology is advancing.

CHANGES OF ADDRESS.

DICKS, H. V., 154A, Adelaide Road, Hampstead, N.W. 3. (Tel. Primrose 2660), and 10, Harley Street, W. 1. (Tel. Langham 1220.)

MILLS, W. T., Chiddingfold, Surrey. (Tel. Chiddingfold 5.)

SKELDING, H., Manor House, Diptford, S. Brent, Devon.

TOMLINSON, J. H., 2, Victoria Villas, Whitley Bay, Northumberland.

APPOINTMENTS.

DICKS, H. V., M.B., M.R.C.P., appointed Physician to the Tavistock Square Clinic for Functional Nervous Disorders. (November, 1928.)

MILES, A. A., B.Chir.(Cantab.), M.R.C.P., appointed Demonstrator of Bacteriology, London School of Hygiene and Tropical Medicine.

BIRTHS.

BLACKWELL.—On October 10th, 1929, at Maison Bruges, Don Road, Jersey, to Mary Georgina, wife of Dr. A. S. Blackwell—a daughter.
COOPER.—On September 29th, 1929, at The Georgian House, Chipstead, to Sally (née Court), wife of A. Basil Cooper, M.B.—a daughter.

GILDING.—On September 5th, 1929, to Violet (née Hazlitt-Brett), wife of Dr. H. P. Gilding, 97, Oakwood Road, N.W. 11—the gift of a daughter.

HOLMES.—On August 28th, 1929, at a nursing home, London, to Barbara Elizabeth (née Hopkins), wife of Eric Gordon Holmes—a daughter.

HOLMES-WATKINS.—On October 7th, 1929, at "Eskdale," King's Lynn, to Vyse, wife of Dr. E. Holmes-Watkins—a daughter.

LYNN.—On August 25th, 1929, at 9, Lancaster Road, to Marjorie, wife of Lieut-Col. G. R. Lynn, D.S.O., I.M.S.—a second son.

MACKIE.—On October 20th, 1929, to Mary Mackie, Utterby House, Louth, wife of Col. F. P. Mackie, I.M.S.—a son.

MALTBV.—On August 24th, 1929, to Marjorie, wife of Dr. H. Wingate Maltby, of 56, Rectory Road, N. 16—a daughter.

McLAGGAN.—On September 29th, 1929, to Elsa V. McLaggan, M.B., B.S. (née Adams), wife of J. D. McLaggan, F.R.C.S., of 15, Wimpole Street, W. 1—a son.

REICHWALD.—On October 20th, 1929, at Timber Hill, Ashted, Surrey, to Katharine Civil (née Rouquette), wife of Dr. M. B. Reichwald—a son.

VICK.—On October 5th, 1929, at St. Clere's Hall, Danbury, to Reginald and Mary Vick—a daughter.

MARRIAGES.

BARNES-NEWMAN.—On October 16th, 1929, at St. Philip's Church, Kensington, Warren Alston Barnes, M.B., B.Ch., elder son of Mr. and Mrs. R. S. Barnes, of Addiscombe, Surrey, to Helen Newman, M.B., B.S., elder daughter of the Rev. and Mrs. Herbert Newman, of Stone, near Ashford.

CLARKSON-GRANT.—On September 26th, 1929, at Christ Church, Lancaster Gate, by the Rev. Norman Manning, Rector of Bideford, Lieut.-Col. T. H. F. Clarkson to Evelyn Augusta, widow of Lieut.-Col. Ian Hope Grant.

HARRIS-GOLDSMITH.—On September 27th, 1929, at Christ Church, Lancaster Gate, Charles F. Harris, M.D., M.R.C.P., son of Mr. and Mrs. G. F. Harris, of 249, St. James's Court, London, to Edith Nadejda, daughter of Mr. and Mrs. J. E. Goldsmith, of 63, Lancaster Gate, London.

INGLEBY-MACKENZIE-TINDAL-ATKINSON.—On October 7th, 1929, in London, Surgeon-Commander Kenneth Alexander Ingleby-Mackenzie, B.A., M.B., B.Ch.(Oxon.), Royal Navy, elder and only surviving son of Mr. and Mrs. Ingleby-Mackenzie, of Lansdowne House, Ryde, Isle of Wight, to Violeta Maria, younger daughter of His Honour the late Judge Longstaffe and of Lady Tindal-Atkinson, of St. Ermin's, Westminster.

OKELL-DUTTON.—On October 2nd, 1929, at St. John's Church, Hartford, Cheshire, by the Rev. E. S. Oliver, vicar, and the Rev. J. R. Spencer, vicar of St. Chad's, Over, Dr. Robert Okell, younger son of Dr. Okell, J.P., and the late Mrs. Okell, of Over Lodge, Winsford, to Hilda Margaret, younger daughter of George W. D. Dutton, J.P., and Mrs. Dutton, of Hillingley, Northwich.

DEATHS.

CAPON.—On August 1st, 1929, at the French Hospital, New York, Dr. Herbert Vawdrey Capon, of Pine View, Sonning Common, Oxon., aged 42.

CHAMBERS.—On September 20th, 1929, at West House, Worthing, Dr. Herbert William James, husband of Frances Mary Chambers.

LEE.—On October 15th, 1929, at "Sainsfoins," Little Shelford, Cambridge, Crichton Stirling Lee, M.R.C.S., L.R.C.P., aged 50.

SMITH.—On October 22nd, 1929, at Trevean, St. Austell, Cornwall (the residence of his brother), Ernest George Smith, M.R.C.S., L.R.C.P., late of 33, Ford Park Road, Plymouth.

VERRALL.—On October 4th, 1929, at East Lodge, Leatherhead, Sir Thomas Jenner Verrall, M.R.C.S., L.R.C.P., LL.D.

NOTICE.

All Communications, Articles, Letters, Notices, or Books for review should be forwarded, accompanied by the name of the sender, to the Editor, ST. BARTHOLOMEW'S HOSPITAL JOURNAL, St. Bartholomew's Hospital, E.C. 1.

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All Communications, financial or otherwise, relative to Advertisements ONLY should be addressed to ADVERTISEMENT MANAGER, The Journal Office, St. Bartholomew's Hospital, E.C. 1. Telephone: City 0510.